

FACTSHEET

Veterinary Services

United States
Department of
Agriculture

Animal and
Plant Health
Inspection
Service

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Highly Pathogenic Avian Influenza

Worldwide, there are many strains of avian influenza virus that can cause varying amounts of clinical illness in poultry. Avian influenza viruses can infect chickens, turkeys, pheasants, quail, ducks, geese, guinea fowl, and a wide variety of other birds. Migratory waterfowl have proved to be the natural reservoir for this disease. Highly pathogenic avian influenza (HPAI) is an extremely infectious and deadly form of the disease. The U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) works to keep HPAI from becoming established in the U.S. poultry population.

HPAI can strike poultry quickly without any warning signs of infection. Once established, the disease can spread rapidly from flock to flock. It is essential for the U.S. poultry industry to be alert to this disease threat.

Clinical Signs

Birds affected with HPAI may show one or more of the following signs:

- Sudden death without clinical signs
- Lack of energy and appetite
- Decreased egg production
- Soft-shelled or misshapen eggs
- Swelling of the head, eyelids, comb, wattles, and hocks
- Purple discoloration of the wattles, combs, and legs
- Nasal discharge
- Coughing, sneezing
- Incoordination
- Diarrhea

Economic Impact of an HPAI Outbreak

A major outbreak of HPAI would be costly to the poultry industry, consumers, and taxpayers. Eradication of an HPAI outbreak that occurred during 1983 and 1984 in the northeastern United States resulted in the destruction of more than 17 million birds at a cost of nearly \$65 million. This outbreak also caused retail egg prices to increase by more than 30 percent.

Introduction and Spread of HPAI Virus

The international movement of migratory waterfowl, poultry, poultry equipment, and people poses a risk for introducing HPAI into the United States. Once introduced, the disease can be spread from bird to bird by direct contact. HPAI viruses can also be spread by manure, equipment, vehicles, egg flats, crates, and people whose clothing or shoes have come in contact with the virus. HPAI viruses can remain viable at moderate temperatures for long periods in the environment and can survive indefinitely in frozen material. One gram of contaminated manure can contain enough virus to infect 1 million birds.

Potential Threat to Human Health

Of all the strains of HPAI virus ever isolated, only one has been shown under natural conditions to be infectious for people. The H5N1 strain isolated in Hong Kong in 1997 was highly pathogenic for chickens and caused a limited outbreak in 18 people. Six of these individuals died. No appearance of this virus outside of Hong Kong has been documented to date. While infection of people can be considered a rare event, poultry personnel and avian health-care specialists should wear adequate safety equipment, such as boots, coveralls, gloves, face masks, and headgear, and follow appropriate sanitary and disinfectant procedures when on premises known or suspected to be infected with HPAI.

Biosecurity Measures

Poultry producers should strengthen biosecurity practices to prevent the introduction of HPAI into their flocks. The following are some sound biosecurity practices:

- Permit only essential workers and vehicles to enter the farm.
- Provide clean clothing and disinfection facilities for employees.
- Thoroughly clean and disinfect equipment and vehicles (including tires and undercarriage) entering and leaving the farm.
- Avoid visiting other poultry farms. If you do visit another farm or live-bird market, change footwear

and clothing before working with your own flock.

- Do not loan or borrow equipment or vehicles from other farms.
- Keep an “all-in, all-out” philosophy of flock management.
- Do not bring birds from slaughter channels, especially live-bird markets, back to the farm.
- Protect open-range or backyard poultry flocks from coming into contact with wild or migratory birds. Also, keep poultry away from lakes and ponds that may have been contaminated by wild birds.

To prevent a possible outbreak of HPAI, poultry producers and dealers must also use biosecurity precautions at live-bird markets. Live-bird markets operate in many major cities. Avian influenza viruses can be introduced into these markets if they receive infected birds or contaminated crates and trucks. Once the virus is established in the market, the movement of birds, crates, or trucks from a contaminated market can spread the virus to other farms. Therefore, the following protective measures should be taken at live-bird markets to prevent the possible spread of disease:

- Use plastic instead of wooden crates for easier cleaning.
- Keep scales and floors clean of manure, feathers, and other debris.
- Clean and disinfect all equipment, crates, and vehicles before returning them to the farm.
- Keep incoming poultry separate from unsold birds, especially if birds are from different lots.
- Clean and disinfect the marketplace after every day of sale.
- Do not return unsold birds to the farm.

For more specific information about biosecurity and cleaning and disinfection practices, contact your local APHIS Veterinary Services office.

Disease Surveillance Activities

To prevent HPAI from being introduced into the United States, USDA requires that all imported birds (poultry, pet birds, birds exhibited at zoos, and ratites) be quarantined and tested for this virus before entering the country.

In addition to international import restrictions, APHIS and State veterinarians specially trained to diagnose foreign animal diseases regularly conduct field investigations of suspicious disease conditions. This surveillance is assisted by university personnel, State animal health officials, USDA-accredited veterinarians, and members of industry who report suspicious cases. Furthermore, APHIS and State animal health officials work cooperatively with the poultry industry to conduct surveillance at breeding flocks, slaughter plants, live-bird markets, livestock auctions, and poultry dealers.

If HPAI were detected in poultry, APHIS veteri-

narians would work quickly with their State counterparts and the industry to implement measures such as quarantine, control, and cleanup to prevent opportunities for the virus to spread.

Report Suspicious Signs

If birds exhibit clinical signs of HPAI or may have been exposed to birds with the disease, immediately notify Federal or State animal health officials.

For more information about HPAI or biosecurity practices, contact

USDA, APHIS, Veterinary Services
Emergency Programs
4700 River Road, Unit 41
Riverdale, MD 20737-1231
Telephone (301) 734-8073
Fax (301) 734-7817

For public health information, contact the Centers for Disease Control and Prevention in Atlanta, GA, at (404) 639-3286.

Current information on animal diseases and suspected outbreaks is also available on the Internet. Point your Web browser to <http://www.aphis.usda.gov> to reach the APHIS home page.